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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,017	02/09/2000	Teruo Hieda	1232-4612	3308

7590 06/18/2004	EXAMINER
Morgan & Finnegan LLP	MISLEH, JUSTIN P

345 Park Avenue	ART UNIT	PAPER NUMBER

ART UNIT	PAPER NUMBER
2612	11

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DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/501,017	HIEDA, TERUO
	Examiner	Art Unit
	Justin P Misleh	2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _4/26/04_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 - 12_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1 - 12_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 February 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _7_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to Claims 1 – 15 have been considered but are moot

in view of the new ground(s) of rejection.

Specification

2.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   **Claims 1, 3 – 5, 7 – 9, 11, and 12** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kaji et al. in view of Nakamura et al.

5.   For **Claims 1 and 5**, Kaji et al. disclose, as shown in figures 6 – 8 and as stated in

columns 3 (lines 42 – 62), 4 (lines 30 – 53), and 5 (lines 25 – 54), an image processing apparatus

and method of operating thereof, comprising the parts and steps:

a detecting part/step which detects (high brightness detector 22b, as shown in figure 8), in

an inputted image signal (the image signal, which is the signal directly output from the sample

and hold circuit 8, is input into the LPF 22a and is then entered in the high brightness detector

22b/detecting part/step), a high-luminance portion that exceeds a predetermined value (As stated

in column 4, lines 37 – 42, the signal is compared with a predetermined saturation level by the

high brightness detector 21b to detect whether it has high brightness or not …);

a generating part/step which generates (also provided in the high brightness detector

22b/detecting part/step) a control signal (continuing in column 4, lines 37 – 42, … and this

detection signal is used as a control signal for the variable gain amplifier 21c.), which has a

prescribed waveform which is defined in such a way that a suppression is reduced from the

detected high-luminance portion toward a periphery of the detected high-luminance portion

(Again, as stated in column 4, lines 42 – 46, the gain of the variable gain amplifier 21c drops

whenever a high-luminance portion is detected; see below for further explanation), in

dependence upon the detection made by said detecting part/step (the high brightness detector

22b/detecting/generating part/step generates a control signal dependent upon the detection made

by the same);

a separating part/step which separates a color signal from the image signal (sample and

hold circuits 9, 10, and 11 separate the color signal R, G, Cy from the image signal, which is the

signal directly output from the sample and hold circuit 8); and

a suppression part/step which suppresses (variable gain amplifier 22c) the separated color

signal by the control signal (only the separated color signal is input, from switch 18, into the

suppression means).

Since the entire dot sequential image signal is entered into the high brightness detector

22b/detecting/generating part/step to determine high brightness areas in the image signal, which

are accordingly suppressed by a drop in the gain of the variable gain amplifier 22c/suppressing

part/step, a control signal provided to the variable gain amplifier inherently is a prescribed

waveform encompassing the entire image signal, which includes the periphery of the high

luminance portion.

However, Kaji et al., as described above, disclose a dot sequential image signal and

prescribed waveform of a single dimension and thus does not disclose a prescribed waveform,

which two-dimensionally spreads from a center of the high-luminance portion to the periphery in

both a horizontal and a vertical direction.

On the other hand, Nakamura et al. also disclose, an image processing apparatus and

method of operating thereof for suppressing a high-luminance portion in a color signal.

Nakamura et al. teach, as shown in figures 7 and 8 and as stated in columns 7 (lines 53 – 67), 8

(lines 1 – 16), 9 (lines 63 – 67), 10 (lines 1 – 8), and 11 (lines 24 – 63), a luminance suppression

circuit (116) wherein a separating part (152) separates a color signal (151R, 151G, and 151B)

from the image signal (R, G, B, Y), a generating part (152) which generates a control signal

(equation 1 as shown in column 11), which has a prescribed waveform which two-dimensionally

spreads from a center of the high-luminance portion to the periphery in both a horizontal and a

vertical direction (matrix of coefficients describing the color signal according to the compression

coefficient K_P), and suppressing part (56R, 56G, and 56B) for suppressing the color signal

(151R, 151G, and 151B) by the control signal (equation 1 as shown in column 11). As stated in

column 4 (lines 37 – 60), at the time the invention was made, one with ordinary skill in the art

would have been motivated to include a generating part which generates a control signal, which

has a prescribed waveform which two-dimensionally spreads from a center of the high-

luminance portion to the periphery in both a horizontal and a vertical direction, as taught by

Nakamura et al., in the image processing apparatus and method of operating thereof, disclosed

by Kaji et al., as a means to change the saturation of only the high luminance portion so as to

achieve a more spontaneous luminance compression. Therefore, at the time the invention was

made, it would have been obvious to one with ordinary skill in the to have a generating part

which generates a control signal, which has a prescribed waveform which two-dimensionally

spreads from a center of the high-luminance portion to the periphery in both a horizontal and a

vertical direction, as taught by Nakamura et al., in the image processing apparatus and method of

operating thereof, disclosed by Kaji et al.

6.   For **Claim 9**, Kaji et al. do not disclose a computer-readable storage medium storing a

program for executing the steps described in Claim 5 above.

       However, **Official Notice** is taken that both the concepts and the advantages of providing

a computer-readable storage medium storing a program for executing the steps of the image

processing method with respect to Claim 5 are well-known and expected in the art. It would

have been obvious to implement the image processing method of Kaji et al using a computer,

software, and memory as means to provide a portable and fully automated image processing

system.

7.   As for **Claims 3, 7, and 11**, Kaji et al. disclose wherein the image signal (which is the

signal directly output from the sample and hold circuit 8) is a signal of an image captured by

image sensing part/step (CCD image sensor 5), and said detecting part/step (high brightness

detector 22b) detects a saturated portion of said image sensing means as the high-luminance

portion (see column 4, lines 37 – 46).

8.   As for **Claims 4, 8, and 12**, Nakamura et al. disclose, that the control signal is only

applicable to the high-luminance portions of the color signal and suppression is applied

accordingly/spontaneously as needed. More specifically, Nakamura et al. states, in columns 14

(lines 66 and 67) and 15 (lines 1 – 6), "only saturation of the high luminance portion can be

varied according to the liking of the viewer to realize more spontaneous luminance compression

by compressing only luminance of the high luminance portion with the color hue and the

saturation unaltered and by compressing only saturation with the luminance of the high

luminance portion and the color hue unchanged."

9.   **Claims 2, 6, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaji

et al. in view of Nakamura et al. in further view of Hirata et al.

10.   As for **Claims 2, 6, and 10**, Kaji et al. disclose, an image processing apparatus and

method of operating thereof comprising a detecting part/step, a generating part/step for

generating a control signal in dependence upon the detection made by the detection part/step, and

a suppression part/step for suppressing a color image signal. Kaki et al. do not disclose the

image processing apparatus and method of operating thereof further comprising: first storage

part/step which stores an output from said detecting part/step, wherein said generating part/step

generates the control signal in dependence upon an output from said first storage part/step; and

second storage part/step for storing this control signal, wherein said suppression part/step

suppresses the color signal using the control signal read out of said second storage part/step.

Hirata et al. also disclose, as shown in figure 6, an image processing apparatus

comprising a detecting part/step (573), a generating part/step (575) for generating a control

signal in dependence upon the detection made by the detection part/step, and a suppression

part/step (576) for suppressing a color image signal. Hirata et al. disclose, the image processing

apparatus further comprising: first storage part/step (provided by CPU 70; see below for

explanation) for storing an output from said detecting part/step (573), wherein said generating

part/step (575) generates the control signal (coefficients) in dependence upon an output from said

first storage part/step (the CPU 70 outputs to the generating part/step 575); and second storage

part/step (RAM 72) for storing this control signal (RAM 72 stores the coefficients), wherein said

suppression part/step (576) suppresses the color signal (provided by HVC converter 571) using

the control signal read out of said second storage part/step.

Hirata et al. teach, as stated in column 8 (lines 26 – 42), the detecting part/step (573)

detects saturation of the image signal based upon a predetermined saturation stored in ROM (71).

The results of the detection are sent from the detecting part/step (573) to the CPU 70 (first

storage part/step). The CPU 70 (first storage part/step) instructs the generating part/step (575) to

generate a control signal (coefficients Kj). Once the control signal (coefficients Kj) is generated,

it is sent back to the CPU 70 (first storage part/step) and is then stored in RAM 72 (second

storage part/step). The control signal (coefficients Kj) is read out from RAM 72 (second storage

part/step) and sent to the suppression part/step (576) to suppress the color signal. The Examiner

interprets CPU 70 as the first storage part/step, since it is inherent to all CPUs to have working

storage or working memories to store information. Therefore, since the detecting part/step sends

its results to the CPU 70, it is in fact sending its results to the first storage part/step. At the time

the invention was made, one with ordinary skill in the art would have been motivated to include

a first and second storage part/step in the arrangement taught by Hirata et al. in the image

processing apparatus of Kaji et al. as a means to include temporary storage locations so as to provide each of the detecting part/step, generating part/step, and suppressing part/step the opportunity to perform their respective processes on entire image signals rather than a continuous stream of partial image signals. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include a first and second storage parts/steps in the arrangement taught by Hirata et al. in the image processing apparatus of Kaji et al.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is brief description of the prior art:

- o **US 5,446,504** discloses generating part that generates a control signal based off of the luminance signal from an image signal and then uses the control signal to suppress the high-luminance portions of a color signal from an image signal. The control signal is comprised of coefficients, thereby producing a two-dimensional waveform.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
June 10, 2004

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